



APPENDIX: VERSION WITHOUT MARKINGS

35. (Three Times Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body;  
a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing;

a bolus estimator used in conjunction with the processor and externally supplied values to estimate an amount of liquid to be infused based upon an estimate of a material to be ingested by the body; and

an indication device, providing at least one of a visual indication, an audible indication or a tactile indication, to indicate when an amount of fluid to be infused has been calculated.

36. An external infusion device according to claim 35, wherein the bolus estimator includes the capability to calculate a correction bolus based upon a current characteristic value and a target characteristic value.

37. An external infusion device according to claim 36, wherein the bolus estimator includes a liquid sensitivity that is used to determine the amount of liquid to be infused to calculate the correction bolus.

38. (Amended) An external infusion device according to claim 37, wherein the liquid to be infused is insulin, and where the material to be ingested is carbohydrates.

39. (Amended) An external infusion device according to claim 35, wherein the liquid to be infused is insulin, and where the material to be ingested is carbohydrates.

40. An external infusion device according to claim 35, wherein the bolus estimator includes a lockout to prevent the calculation of a bolus for a predetermined period of time after a bolus estimated by the bolus estimator.

41. An external infusion device according to claim 35, wherein the supplied values are codes representing a carbohydrate value of specific foods.

42. An external infusion device according to claim 35, wherein the supplied values are codes representing a carbohydrate value of specific meals.

43. An external infusion device according to claim 35, further including a duration factor to determine a value of how long a previously infused amount of liquid will remain active in the body, wherein the determined value is used to adjust the amount of the fluid to be infused.

44. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body;

a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing; and

a vibration alarm used in conjunction with the processor to provide an alarm, and to generate sufficient vibration to assist in removing gas bubbles from the fluid in the reservoir during priming of the external infusion device.

45. An external infusion device according to claim 44, wherein the vibration alarm is used to agitate the fluid in the reservoir in between successive delivery periods of the fluid by the external infusion device.

46. An external infusion device according to claim 44, wherein the vibration alarm is used to agitate the fluid in the reservoir during delivery of the fluid by the external infusion device.

47. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body;  
a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;  
a processor coupled to the housing;  
an audible alarm coupled to the processor; and  
a vibration alarm used in conjunction with the processor and the audible alarm to provide an alarm.

48. An external infusion device according to claim 47, wherein the vibration alarm is also used to agitate the fluid in the reservoir in between successive delivery periods of the fluid by the external infusion device.

49. An external infusion device according to claim 47, wherein the vibration alarm is also used to agitate the fluid in the reservoir during delivery of the fluid by the external infusion device.

50. An external infusion device according to claim 47, wherein the processor selects to activate one of the audible alarm and vibration alarm independently of the unselected alarm.

51. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body; a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing;

a keypad coupled to the housing and used in conjunction with the processor to determine an estimate of remaining battery power; and

an indication device, providing at least one of a visual indication, an audible indication or a tactile indication, to indicate the estimate of remaining battery power.

52. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body; a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing;

a memory coupled to and used in conjunction with the processor to store at least two personal delivery patterns;

a keypad coupled to the housing and used in conjunction with the processor to select one of the at least two personal delivery patterns; and

an indication device to indicate the selected personal delivery pattern,

wherein the processor controls the external infusion device in accordance with the selected one of the at least two personal delivery patterns.

53. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body;

a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a receiver coupled to the housing for receiving remotely generated commands;

a processor coupled to the housing;

a memory coupled to and used in conjunction with the processor to store at least two personal delivery patterns, wherein the processor is coupled to the receiver to receive the remotely generated commands and to control the external infusion device in accordance with the commands to select one of the at least two personal delivery patterns; and

an indication device to indicate the selected personal delivery pattern and when a command has been received to control the external infusion device in accordance with the selected personal delivery pattern such that the external infusion device is capable of being concealed from view when being remotely commanded,

wherein the processor controls the external infusion device in accordance with the selected one of the at least two personal delivery patterns.

54. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body;

a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing;

a memory coupled to and used in conjunction with the processor to store at least two basal rate profiles;

a keypad coupled to the housing and used in conjunction with the processor to program the at least two basal rate profiles; and

an indication device to indicate the basal rate profiles during programming,  
wherein the processor controls the external infusion device in accordance with the programmed at least two basal rate profiles.

55. (Twice Amended) An external infusion device for infusion of a liquid into a body from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body; a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing;

a memory coupled to and used in conjunction with the processor to store at least two bolus types;

a keypad coupled to the housing and used in conjunction with the processor to select one of the at least two bolus types; and

an indication device to indicate the selected bolus type,

wherein the processor controls the external infusion device in accordance with the selected one of the at least two bolus types.

65. (Twice Amended) An external infusion device for infusion of a liquid into a body of a user from a reservoir, the external infusion device comprising:

a drive mechanism to operatively couple with a reservoir to infuse a liquid into a body; a housing adapted for use on an exterior of the body, wherein the housing is sized to contain at least a portion of a reservoir, wherein the drive mechanism is contained within the housing, wherein the drive mechanism operatively couples with the at least a portion of a reservoir within the housing, and wherein the housing is sized to fit in a clothing pocket;

a processor coupled to the housing; and

a vibration alarm used in conjunction with the processor to provide one or more tactile sensations to a user.

66. An external infusion device according to claim 65, wherein the vibration alarm provides one or more tactile sensations to the user in response to a low reservoir alert.

67. An external infusion device according to claim 65, wherein the vibration alarm provides one or more tactile sensations to the user in response to a communication from a remote commander.

68. An external infusion device according to claim 65, wherein the vibration alarm provides one or more tactile sensations to the user in response to one or more commands to change one or more operations of the external infusion device.

69. An external infusion device according to claim 65, wherein the vibration alarm provides one or more tactile sensations to the user during a period that the infusion device is in a suspend mode.

70. An external infusion device according to claim 52, wherein the at least two personal delivery patterns are programmable by a user.

71. An external infusion device according to claim 52, wherein the keypad is used to program the at least two personal delivery patterns.

72. An external infusion device according to claim 52, wherein the selected one of the at least two personal delivery patterns repeats daily.

86. (New) An external infusion device according to claim 35, wherein the housing is further adapted to be worn on a belt.

87. (New) An external infusion device according to claim 35, wherein the housing is further adapted to be worn under clothing.

88. (New) An external infusion device according to claim 35, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

89. (New) An external infusion device according to claim 35, wherein the housing is further adapted to be worn against the skin.

90. (New) An external infusion device according to claim 35, wherein the housing is further sized to be contained in the pocket.

91. (New) An external infusion device according to claim 35, wherein the housing is further sized to be held within the pocket.

92. (New) An external infusion device according to claim 44, wherein the housing is further adapted to be worn on a belt.

93. (New) An external infusion device according to claim 44, wherein the housing is further adapted to be worn under clothing.

94. (New) An external infusion device according to claim 44, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

95. (New) An external infusion device according to claim 44, wherein the housing is further adapted to be worn against the skin.

96. (New) An external infusion device according to claim 44, wherein the housing is further sized to be contained in the pocket.

97. (New) An external infusion device according to claim 44, wherein the housing is further sized to be held within the pocket.

98. (New) An external infusion device according to claim 47, wherein the housing is further adapted to be worn on a belt.

99. (New) An external infusion device according to claim 47, wherein the housing is further adapted to be worn under clothing.

100. (New) An external infusion device according to claim 47, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

101. (New) An external infusion device according to claim 47, wherein the housing is further adapted to be worn against the skin.

102. (New) An external infusion device according to claim 47, wherein the housing is further sized to be contained in the pocket.

103. (New) An external infusion device according to claim 47, wherein the housing is further sized to be held within the pocket.

104. (New) An external infusion device according to claim 51, wherein the housing is further adapted to be worn on a belt.

105. (New) An external infusion device according to claim 51, wherein the housing is further adapted to be worn under clothing.

106. (New) An external infusion device according to claim 51, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

107. (New) An external infusion device according to claim 51, wherein the housing is further adapted to be worn against the skin.

108. (New) An external infusion device according to claim 51, wherein the housing is further sized to be contained in the pocket.

109. (New) An external infusion device according to claim 51, wherein the housing is further sized to be held within the pocket.

110. (New) An external infusion device according to claim 52, wherein the housing is further adapted to be worn on a belt.

111. (New) An external infusion device according to claim 52, wherein the housing is further adapted to be worn under clothing.

112. (New) An external infusion device according to claim 52, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

113. (New) An external infusion device according to claim 52, wherein the housing is further adapted to be worn against the skin.

114. (New) An external infusion device according to claim 52, wherein the housing is further sized to be contained in the pocket.

115. (New) An external infusion device according to claim 52, wherein the housing is further sized to be held within the pocket.

116. (New) An external infusion device according to claim 53, wherein the housing is further adapted to be worn on a belt.

117. (New) An external infusion device according to claim 53, wherein the housing is further adapted to be worn under clothing.

118. (New) An external infusion device according to claim 53, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

119. (New) An external infusion device according to claim 53, wherein the housing is further adapted to be worn against the skin.

120. (New) An external infusion device according to claim 53, wherein the housing is further sized to be contained in the pocket.

121. (New) An external infusion device according to claim 53, wherein the housing is further sized to be held within the pocket.

122. (New) An external infusion device according to claim 54, wherein the housing is further adapted to be worn on a belt.

123. (New) An external infusion device according to claim 54, wherein the housing is further adapted to be worn under clothing.

124. (New) An external infusion device according to claim 54, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

125. (New) An external infusion device according to claim 54, wherein the housing is further adapted to be worn against the skin.

126. (New) An external infusion device according to claim 54, wherein the housing is further sized to be contained in the pocket.

127. (New) An external infusion device according to claim 54, wherein the housing is further sized to be held within the pocket.

128. (New) An external infusion device according to claim 55, wherein the housing is further adapted to be worn on a belt.

129. (New) An external infusion device according to claim 55, wherein the housing is further adapted to be worn under clothing.

130. (New) An external infusion device according to claim 55, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

131. (New) An external infusion device according to claim 55, wherein the housing is further adapted to be worn against the skin.

132. (New) An external infusion device according to claim 55, wherein the housing is further sized to be contained in the pocket.

133. (New) An external infusion device according to claim 55, wherein the housing is further sized to be held within the pocket.

134. (New) An external infusion device according to claim 65, wherein the housing is further adapted to be worn on a belt.

135. (New) An external infusion device according to claim 65, wherein the housing is further adapted to be worn under clothing.

136. (New) An external infusion device according to claim 65, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

137. (New) An external infusion device according to claim 65, wherein the housing is further adapted to be worn against the skin.

138. (New) An external infusion device according to claim 65, wherein the housing is further sized to be contained in the pocket.

139. (New) An external infusion device according to claim 65, wherein the housing is further sized to be held within the pocket.

140. (New) An external infusion device according to claim 73, wherein the housing is further adapted to be worn on a belt.

141. (New) An external infusion device according to claim 73, wherein the housing is further adapted to be worn under clothing.

142. (New) An external infusion device according to claim 73, wherein the housing is sized to allow for concealment under clothing in a generally unobtrusive manner.

143. (New) An external infusion device according to claim 73, wherein the housing is further adapted to be worn against the skin.

144. (New) An external infusion device according to claim 73, wherein the housing is further sized to be contained in the pocket.

145. (New) An external infusion device according to claim 73, wherein the housing is further sized to be held within the pocket. –